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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,358	12/03/2003	Tianyi Liao	LP 4820 US NA	6394
43693	7590	10/01/2010		
INVISTA NORTH AMERICA S.A.R.L. THREE LITTLE FALLS CENTRE/1052 2801 CENTERVILLE ROAD WILMINGTON, DE 19808			EXAMINER PIZIALI, ANDREW T	
			ART UNIT	PAPER NUMBER
			1786	
			NOTIFICATION DATE	DELIVERY MODE
			10/01/2010	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Kathy.L.Crew@invista.com  
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### Office Action Summary

**Application No.**

10/728,358

**Applicant(s)**

LIAO, TIANYI

**Examiner**

Andrew T. Piziali

**Art Unit**

1786

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 August 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 9-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. The amendment filed on 8/18/2010 has been entered.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 9-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 03/083194 to Shigemura (USPN 7,134,265 cited as translation document) in view of USPN 4,405,686 to Kuroda in view of USPN 5,896,634 to Brodowski.

Regarding claims 9-20, Shigemura discloses a composite yarn comprising at least one elastomeric fiber forming a strand with a total draft in a range from 1.2X to 6.2X of an original spun length of the strand; at least one hard yarn selected from the group consisting of: synthetic fibers, natural fibers and a blend of synthetic and natural fibers, wherein said hard yarn is aligned adjacent and substantially parallel to said strand to make an aligned yarn (see entire document including column 2, lines 30-47, column 3, lines 32-59, and column 4, lines 22-39).

Shigemura discloses that the yarn has a core-sheath construction (elastic strand internal to the hard yarn) but fails to teach or suggest using a side-by-side construction (elastic strand external to the hard yarn). Kuroda discloses that it is known in the art to construct an elastic/inelastic composite yarn with a core-sheath construction or a side-by-side construction (see entire document including column 1, lines 7-13 and column 6, lines 35-45). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the composite yarn in any suitable construction, such as sheath-core or side-by-side, because it is within the general skill of a worker in the art to select a known construction on the basis of its suitability and desired characteristics.

Shigemura does not appear to mention the use of a size material, but Shigemura does disclose that the composite yarns may be woven into a woven fabric (column 1, lines 7-14). Brodowski discloses that it is known in the art to apply a size material to a composite yarn to result in easy weavability (see column 1, lines 45-68). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply a size material to cover the composite yarn, because the size material allows for easy weavability of the composite yarn.

Regarding claim 10, Shigemura discloses that the elastic yarn has a fineness of 33 to 110 dtex (column 3, lines 32-43) and the hard yarn has a fineness of 33 to 330 dtex (column 4, lines 22-39), but Shigemura does not appear to specifically mention the use of spandex as the elastic material. Shigemura discloses that there is no limitation to the composition of the elastic yarn and specifically mentions the use of polyurethane elastic material (column 2, lines 30-47). The examiner takes official notice that spandex is a well known polyurethane elastic material.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the elastic yarn from any suitable elastic material, such as spandex, because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

Regarding claim 11, Brodowski discloses that a wax may be added to the sizing agent to further improve weavability (column 1, lines 45-67).

Regarding claim 12, Brodowski does not specifically disclose that the sizing agent is applied as a coating, but the examiner takes official notice that sizing agents are conventionally applied as coatings.

Regarding claims 13-20, Shigemura discloses that the composite yarns may be used to form woven or knitted fabrics with or without another type of yarn and that there is no limitation to the weaving or knitting structure of the fabric (column 5, lines 33-46). Absent a showing of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use construct the claimed woven or knitted fabric, because it is understood by one of ordinary skill in the art that the structure of the woven or knitted fabric directly affects the cost of the fabric, the fabric character, and the aesthetics, and because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

Regarding claims 17-20, Brodowski discloses that the size material is washed away after final finishing (column 1, lines 45-67).

Regarding claims 18 and 20, a recitation of the intended use (garment) of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In addition, the examiner takes official notice that garments commonly include woven or knitted elastic yarns.

4. Claims 9-10 and 12-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 03/083194 to Shigemura (USPN 7,134,265 cited as translation document) in view of USPN 4,405,686 to Kuroda in view of Japanese Patent No. 4 733 754 to Nakatomi.

Regarding claims 9-20, Shigemura discloses a composite yarn comprising at least one elastomeric fiber forming a strand with a total draft in a range from 1.2X to 6.2X of an original spun length of the strand; at least one hard yarn selected from the group consisting of: synthetic fibers, natural fibers and a blend of synthetic and natural fibers, wherein said hard yarn is aligned adjacent and substantially parallel to said strand to make an aligned yarn (see entire document including column 2, lines 30-47, column 3, lines 32-59, and column 4, lines 22-39).

Shigemura discloses that the yarn has a core-sheath construction (elastic strand internal to the hard yarn) but fails to teach or suggest using a side-by-side construction (elastic strand external to the hard yarn). Kuroda discloses that it is known in the art to construct an elastic/inelastic composite yarn with a core-sheath construction or a side-by-side construction (see entire document including column 1, lines 7-13 and column 6, lines 35-45). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the composite yarn in any suitable construction, such as sheath-core or side-by-

side, because it is within the general skill of a worker in the art to select a known construction on the basis of its suitability and desired characteristics.

Shigemura does not appear to mention the use of a size material, but Shigemura does disclose that the composite yarns may be woven into a woven fabric (column 1, lines 7-14). Nakatomi discloses that it is known in the art to apply a size material to a composite yarn to result in easy weavability (see entire document). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply a size material to cover the composite yarn, because the size material allows for easy weavability of the composite yarn.

Regarding claim 10, Shigemura discloses that the elastic yarn has a fineness of 33 to 110 dtex (column 3, lines 32-43) and the hard yarn has a fineness of 33 to 330 dtex (column 4, lines 22-39), but Shigemura does not appear to specifically mention the use of spandex as the elastic material. Shigemura discloses that there is no limitation to the composition of the elastic yarn and specifically mentions the use of polyurethane elastic material (column 2, lines 30-47). The examiner takes official notice that spandex is a well known polyurethane elastic material. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the elastic yarn from any suitable elastic material, such as spandex, because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

Regarding claim 12, Nakatomi does not specifically disclose that the sizing agent is applied as a coating, but the examiner takes official notice that sizing agents are conventionally applied as coatings.

Regarding claims 13-20, Shigemura discloses that the composite yarns may be used to form woven or knitted fabrics with or without another type of yarn and that there is no limitation to the weaving or knitting structure of the fabric (column 5, lines 33-46). Absent a showing of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use construct the claimed woven or knitted fabric, because it is understood by one of ordinary skill in the art that the structure of the woven or knitted fabric directly affects the cost of the fabric, the fabric character, and the aesthetics, and because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

Regarding claims 17-20, Nakatomi discloses that the PVA material is washed away after final finishing (column 1, lines 45-67).

Regarding claims 18 and 20, a recitation of the intended use (garment) of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In addition, the examiner takes official notice that garments commonly include woven or knitted elastic yarns.



5. Claims 9-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 03/083194 to Shigemura (USPN 7,134,265 cited as translation document) in view of USPN 4,405,686 to Kuroda in view of USPN 3,719,664 to Hayes.

Regarding claims 9-20, Shigemura discloses a composite yarn comprising at least one elastomeric fiber forming a strand with a total draft in a range from 1.2X to 6.2X of an original spun length of the strand; at least one hard yarn selected from the group consisting of: synthetic fibers, natural fibers and a blend of synthetic and natural fibers, wherein said hard yarn is aligned adjacent and substantially parallel to said strand to make an aligned yarn (see entire document including column 2, lines 30-47, column 3, lines 32-59, and column 4, lines 22-39).

Shigemura discloses that the yarn has a core-sheath construction (elastic strand internal to the hard yarn) but fails to teach or suggest using a side-by-side construction (elastic strand external to the hard yarn). Kuroda discloses that it is known in the art to construct an elastic/inelastic composite yarn with a core-sheath construction or a side-by-side construction (see entire document including column 1, lines 7-13 and column 6, lines 35-45). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the composite yarn in any suitable construction, such as sheath-core or side-by-side, because it is within the general skill of a worker in the art to select a known construction on the basis of its suitability and desired characteristics.

Shigemura does not appear to mention the use of a size material, but Shigemura does disclose that the composite yarns may be woven into a woven fabric (column 1, lines 7-14). Hayes discloses that it is known in the art to apply a size material to a yarn to result in easy weavability (column 1, lines 5-43). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply a size material to cover the composite yarn, because the size material allows for easy weavability of the composite yarn.

Regarding claim 10, Shigemura discloses that the elastic yarn has a fineness of 33 to 110 dtex (column 3, lines 32-43) and the hard yarn has a fineness of 33 to 330 dtex (column 4, lines 22-39), but Shigemura does not appear to specifically mention the use of spandex as the elastic material. Shigemura discloses that there is no limitation to the composition of the elastic yarn and specifically mentions the use of polyurethane elastic material (column 2, lines 30-47). The examiner takes official notice that spandex is a well known polyurethane elastic material. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the elastic yarn from any suitable elastic material, such as spandex, because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

Regarding claim 11, Hayes discloses that a wax may be added to the sizing agent to further improve weavability (column 1, lines 25-43).

Regarding claim 12, Hayes discloses that the sizing agent is applied as a coating (column 1, lines 26-43).

Regarding claims 13-20, Shigemura discloses that the composite yarns may be used to form woven or knitted fabrics with or without another type of yarn and that there is no limitation to the weaving or knitting structure of the fabric (column 5, lines 33-46). Absent a showing of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use construct the claimed woven or knitted fabric, because it is understood by one of ordinary skill in the art that the structure of the woven or knitted fabric directly affects the cost of the fabric, the fabric character, and the aesthetics, and because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

Regarding claims 18 and 20, a recitation of the intended use (garment) of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In addition, the examiner takes official notice that garments commonly include woven or knitted elastic yarns.

6. Claims 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 03/083194 to Shigemura in view of USPN 4,405,686 to Kuroda in view of USPN 5,896,634 to Brodowski as applied to claims 9-20 above, and further in view of USPN 3,867,242 to Miller.

Regarding claims 13-20, Miller discloses that it is known in the art to alternate elastomeric and non-elastomeric fibers (1:1 ratio) in the warp and/or weft direction to produce the desired fabric characteristics (see entire document including the paragraph bridging columns 4 and 5). It would have been obvious to one having ordinary skill in the art at the time the

invention was made to use composite yarns and/or hard yarns in the warp and/or weft yarns of a woven or elastic fabric, in a ratio of from 1:1, because it is understood by one of ordinary skill in the art that the structure of the woven fabric directly affects the cost of the fabric, the fabric character, and the aesthetics, and because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

7. Claims 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 03/083194 to Shigemura in view of USPN 4,405,686 to Kuroda in view of Japanese Patent No. 4 733 754 to Nakatomi as applied to claims 9-10 and 12-20 above, and further in view of USPN 3,867,242 to Miller.

Regarding claims 13-20, Miller discloses that it is known in the art to alternate elastomeric and non-elastomeric fibers (1:1 ratio) in the warp and/or weft direction to produce the desired fabric characteristics (see entire document including the paragraph bridging columns 4 and 5). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use composite yarns and/or hard yarns in the warp and/or weft yarns of a woven or elastic fabric, in a ratio of from 1:1, because it is understood by one of ordinary skill in the art that the structure of the woven fabric directly affects the cost of the fabric, the fabric character, and the aesthetics, and because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

8. Claims 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 03/083194 to Shigemura in view of USPN 4,405,686 to Kuroda in view of USPN 3,719,664 to Hayes as applied to claims 9-20 above, and further in view of USPN 3,867,242 to Miller.

Regarding claims 13-20, Miller discloses that it is known in the art to alternate elastomeric and non-elastomeric fibers (1:1 ratio) in the warp and/or weft direction to produce the desired fabric characteristics (see entire document including the paragraph bridging columns 4 and 5). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use composite yarns and/or hard yarns in the warp and/or weft yarns of a woven or elastic fabric, in a ratio of from 1:1, because it is understood by one of ordinary skill in the art that the structure of the woven fabric directly affects the cost of the fabric, the fabric character, and the aesthetics, and because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

#### ***Response to Arguments***

9. Applicant's arguments filed 8/18/2010 have been considered but are moot in view of the new grounds of rejection.

***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Piziali whose telephone number is (571) 272-1541. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew T Piziali/  
Primary Examiner, Art Unit 1786